

List of Current Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1 - 19 (Cancelled)

20. (Currently amended) A device for IR-spectrometric analysis of a solid, liquid or gaseous medium, comprising:

a process probe, which has a reflection element which comprises a microprism;

a linear variable filter,

at least one detector element; and

a control/evaluation unit, wherein:

at least one radiation source is provided, whose electromagnetic radiation is coupled into said reflection element,

at least one waveguide is provided, having an input section and an output section;

the electromagnetic radiation is conducted via the output section of said waveguide into at least one defined area of said linear variable filter;

said detector element is arranged to be movable relative to said linear variable filter over essentially the length of said linear variable filter; and

said control/evaluation unit determines the spectrum of the medium on the basis of the measured values delivered from said detector element.

21. (Currently amended) A device for IR-spectrometric analysis of a solid, liquid or gaseous medium, comprising:

a process probe, which has a reflection element which comprises a microprism;

a linear variable filter;

at least one detector element; and

a control/evaluation unit, wherein:

at least one radiation source is provided, whose electromagnetic radiation is focused into at least one defined region of said linear variable filter;

at least one waveguide is provided, via which the electromagnetic radiation is coupled, after passing through said linear variable filter, into the reflection element,

the focused electromagnetic radiation coming from said radiation source is arranged to be movable relative to said linear variable filter over essentially the length of said linear variable filter;

said detector element receives the electromagnetic radiation after it has passed through said reflection element; and

said control/evaluation unit determines the spectrum of the medium on the basis of the measurement values delivered from said detector element.

22. (Currently Amended) The device as claimed in claim 20, wherein:

said control/evaluation unit controls the relative movement between said detector element and said linear variable filter, stepwise or continuously, ~~between said radiation source and said linear variable filter~~[[.]].

23. (Previously presented) The device as claimed in claim 20, wherein:

said detector element is mounted fixedly;

said radiation source is mounted fixedly; and

said control/evaluation unit moves said linear variable filter stepwise or continuously past said detector element.

24. (Previously presented) The device as claimed in claim 20, wherein:

said linear variable filter is mounted fixedly;

said linear variable filter is fixedly mounted; and

said control/evaluation unit moves the detector element stepwise or continuously past said linear variable filter.

25. (Previously presented) The device as claimed in claim 20, further comprising:

a holding device, in which said detector element and said output section, are mounted.

26. (Previously presented) The device as claimed in claim 20 25, further comprising:

a guide rail, wherein:

said holding device, said detector element, said radiation source or said linear variable filter are arranged on said guide rail.

27. (Previously presented) The device as claimed in claim 20, wherein:

said output section and/or said input section includes a cross-section converter.

28. (Currently Amended) The device as claimed in claim 25, further comprising:
a drive wherein:

said drive is provided for moving said linear variable filter or said detector element, said radiation source, and said holding device for said detector element, and said radiation source, stepwise or continuously.

29. (Previously presented) The device as claimed in claim 20, wherein:

said at least one waveguide is an optical fiber duplexer, via which the measuring radiation and a reference radiation are guided to said reflection element; and

the measuring beam and the reference beam are conducted to said linear variable filter.

30. (Currently Amended) The device as claimed in claim 20, wherein:

said detector element comprises a pyroelectric detector, preferably which comprises one of: a thermopile, [[or]] an MCT detector, [[or]] and a detector array.

31. (Previously presented) The device as claimed in claim 20, wherein:
said reflection element is manufactured from a high-purity semiconductor material.

32. (Previously presented) The device as claimed in claim 20, wherein:
said reflection element is manufactured from a high-purity semiconductor material or another IR-transmittive material, to both of which a thin diamond coating is applied.

Claim 33 (Cancelled).

34. (Previously presented) The device as claimed in claim 20, wherein:
said reflection element is so dimensioned and embodied that the ray path of said measuring light undergoes a plurality of reflections in said reflection element; and
the number of reflections is determinable via the length of said reflection element.

35. (Currently Amended) The device as claimed in claim ~~33~~ 20, wherein:
said reflection element has one of: a round, quadratic ~~[[or]]~~ and polygonal cross sectional area.

36. (Previously presented) The device as claimed in claim 35, wherein:
said first wave guide comprises a plurality of fibers and has on the side of said linear variable filter a linear fiber cross-section converter and on the side of said reflection element an L-shaped cross-section converter; and
said second wave guide comprises a plurality of fibers and has on the side of said reflection element an L-shaped fiber cross-section converter and on the side of said detector a quadratic fiber cross-section converter.

37. (Previously presented) The device as claimed in claim 36, wherein:

the two fiber cross-section converters are integrated on the side of said reflection element into at least one holder, and are arranged in the immediate vicinity of the cross-sectional area of said reflection element on the cross-sectional area of said reflection element.

38. (Currently Amended) The device as claimed in claim 20, wherein:
said process probe comprises one of: an ATR probe, a reflection probe ~~[[or]]~~ and
a transmission probe.